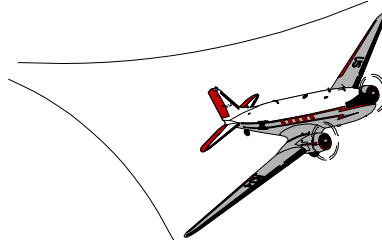


SPECIAL AIRWORTHINESS INFORMATION BULLETIN

Aircraft Certification Service
Washington, DC



U.S. Department
of Transportation

**Federal Aviation
Administration**

No. CE-03-03
October 9, 2002

We post SAIBs on the internet at "av-info.faa.gov"

This is information only. Recommendations are not mandatory.

The purpose of this Special Airworthiness Information Bulletin (SAIB) is to provide safety information to Stemme Models S10 and S10-VT sailplane owners on the following:

Fire Protection – Preventive Actions for Enhanced Fire Protection

Background

An in-flight fire occurred on a Stemme Model S10-VT on July 14, 2001. The accident investigation revealed that the fire was not contained in the engine compartment. The manufacturer conducted a Model S10-VT design review and determined that modifications to the fuel and oil system and the firewall design will significantly reduce the potential for a fire to ignite in the engine compartment and increase the containment of an engine fire in the engine compartment.

The FAA issued an Airworthiness Concern Sheet (ACS) on June 10, 2002 for the Model S10-VT. As result of the ACS, a Notice of Propose Rulemaking was issued for the Model S10-VT.

The FAA also consulted with the Luftfahrt-Bundesamt (LBA) concerning the need to also modify the Models S10 and S10-V in a similar manner. It is noted that the S10 and S10-V have a different engine installation (non-turbocharged). The Stemme Company subsequently developed Service Bulletin A31-10-063. This SB incorporates similar design modifications to the Models S10 and S10-V as were conducted to Model S10-VT.

Safety Issue

Stemme GmbH & Co. has developed the following service information:

- Service Bulletin A31-10-057, dated June 7, 2001, that improves the firewall opening gap around the drive shaft.
- Service Bulletin A31-10-063, dated September 11, 2002 that incorporates additional measures for fire protection within the engine compartment.
- Installation Instructions A34-10-063E, dated August 23, 2002, that describe the Installation Instructions for Service Bulletin A31-10-063 referenced above.

We are including copies the Stemme Service Bulletins and Installation Instructions for your information.

NOTE: We did not include pages 1 and 2 of A31-10-057 and A34-10-063 because they were written in German.

We are currently assessing the need to issue an FAA Airworthiness Directive for the Stemme S10 and S10-V sailplanes. In the interim, we are using this SAIB to inform U.S. owners of the modifications Stemme GmbH & Company have developed. If we determine that an AD is appropriate, we will issue a Notice of Proposed Rulemaking.

Recommendation

The FAA highly recommends that you, an owner or operator of Stemme Model S110-VT sailplane, comply with the Service Bulletins enclosed.

For Technical Information Concerning These Safety Issues Contact:

Stemme GmbH & Co. KG, Gustav-Meyer-Allee 25, D-13355 Berlin, Germany; Telephone 49.3341.3111.70; Facsimile 49.3341.3111.73.

Stemme USA, Inc., United States Dealer for Stemme GmbH & Co. KG, 1401 South Brentwood Blvd, Suite 760, Saint Louis, Missouri, 63144; Telephone (314) 721-5904; Facsimile (314) 726-5114.

For Further Information Contact:

Mike Kiesov, Aerospace Engineer/Pilot, FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri, 64106; telephone (816) 329-4144; Facsimile (816) 329-4090.

STEMME F & D Design Org.	Service Bulletin	Document Number: A31-10-057
	Measures for Sealing of Cockpit	Am.-Index: 01.a
		Page: 3 of 4

This Service Bulletin provides from page 1 to 2 the original version in German, approved by the Luftfahrt-Bundesamt, and from page 3 to 4 a translated version in English. The translation has been performed to the best of our knowledge and judgement.

1 Subject:

Measures for Sealing of Cockpit

2 Affected Powered Sailplane:

Type STEMME S10, models S10, S10-V and S10-VT / LBA Type Certificate No. 846, FAA Type Certificate: G58EU and G06CE.

Serial numbers: all

3 Time of compliance:

None. An optional retrofitting is possible.

4 Background Information:

Improvement of cockpit sealing against warm air coming out of engine compartment via the fire wall opening gap around the drive shaft.

5 Actions:

5.1 Constructional Modifications to the Aircraft:

Installation of the following seals:

Propeller Dome Tube Seal → rubber lip seal between inner tube of propeller and dome tube as well as a seal by foam material within the dome tube.
Weight: about 15 g (0.5 OZ)

Flywheel Clutch Seal → sealing of the gap between fire wall and flywheel clutch by a gasket made of fire-proof fabric (dimensions modified for models S10 and S10-V by constructional deviation A18-2001-003/02.a).
Weight: about 100 g (3.5 OZ)

Take care during mounting to the fire wall that a gap of 2–5 mm (.08"–.2") between clutch and gasket still remains. A direct contact of the gasket and the clutch may cause sign of wear to the fabric material.

5.2 Modifications to the Manuals:

5.2.1 Maintenance Manual

A Maintenance Instruction A35-10-057 "Cockpit-Abdicht-Maßnahmen, gültig für Baureihen S10, S10-V und S10-VT" has been issued for all German-language manuals and a Maintenance Instruction A35-10-057-E "Measures for Sealing of Cockpit, valid for models S10, S10-V and S10-VT" for all English-language manuals (JAA, FAA).

6 Mass and balance:

Not affected because the mass difference is negligible.

7 Material:

The entire set of parts for re-equipping may be ordered from STEMME GmbH & Co. KG stating the S/N of the powered glider and the number (A31-10-057) of the present Service Bulletin.

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8 Associated documents:

The following documents are required for re-equipping and checking and they are included in the re-equipping set:

Item	document number	type of document	title of document
1	A35-10-057	Maintenance Instruction	Measures for Sealing of Cockpit

9 Accomplishment and log entry:

An authorised mechanic may carry out the actions described in this Service Bulletin and must be checked and entered in the airplane's log book by a licensed inspector. The regulations on the keeping of service records must be adhered to.

(End)

STEMME F & D LBA.NSD.005	Service Bulletin	Document Number: A31-10-063
	Additional Measures Fire Protection S10/ S10-V	Am.-Index: 01.a
		Page: 3 (of 4)

This Service Bulletin provides from page 1 to 2 the original version in German, approved by the Luftfahrt-Bundesamt, and from page 3 to 4 a translated version in English. The translation has been performed to the best of our knowledge and judgement.

1 Subject

Preventive actions for enhanced fire protection for the powered sailplane STEMME S10.

2 Affected Powered Sailplane

Powered Sailplane STEMME S10, model S10/ S10-V

LBA-TCDS No. 846 / FAA-TCDS: G58EU.

affected serial numbers: S10 → all serial numbers
 S10-V → all serial numbers

3 Time of compliance

The measures of this SB are mandatory for all powered sailplane that are registered in the US, and they are recommended but still optional for all others.

Serial- numbers that are registered in the US must be modified within the next 100 flight hours, but not later than December 31, 2002.

4 Background Information

Similar to Service Bulletin A31-10-061 "Additional Measures Fire Protection S10-VT", additional measures for fire protection are to be introduced for the models S10 and S10-V .

5 Actions

5.1 Modifications to the fuel system

According to the actions described in this SB the fuel system has to be modified as follows:

- *Installation of drum covers of heat reflecting sleeves around all fuel lines near the engine compartment.*
- *Replacement of the plastic quick-connectors between the wing and the fuselage by a metal version*

5.2 Inspection and sealing of all line connections in the engine compartment

- *First check the tightening of all fuel and oil line connections in the engine compartment.*
- *Then check the proper fit of the fire sleeves protecting all fuel and oil lines. The connection area must be completely covered by fire sleeves. If not, then the affected fire sleeves must be replaced by longer ones. All installed fire sleeves must be protected against movement by use of safety wires on both ends.*

5.3 Sealing of the fire wall

- *All existing gaps between the fire wall and the steel frame as well as the fire wall and the forward composite structure must be sealed with fire protection lute.*
- *In addition, the actions described in the SB A31-10-057 have to be accomplished.*

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6 Modifications to the Manuals

None.

7 Mass and balance

The described actions will raise the empty weight by about 1.33 lb. (0,6 kg). The position of the empty centre of gravity is not modified for all modifications are close to the C.G.

8 Materials

A set of materials needed for the modifications can be ordered by the manufacturer:

STEMME AG
Fugplatzstrasse F2, Nr.7
D-15344 Strausberg
Germany.

9 Associated documents

The following documents are required for realization:

No.	Document-No.	Type of document	Description
1	A34-10-063	Installation Instruction	Additional Measures Fire Protection S10/ S10-V
2	A31-10-057	Service Bulletin	Cockpit sealing
3	A35-10-057	Maintenance Instruction	Cockpit sealing

10 Accomplishment and log entry

An authorised mechanic may carry out the actions described in this Service Bulletin. The completion of this SB must be checked and entered in the airplane's log book by a licensed inspector. The regulations on the keeping of service records must be adhered to.

(End)

<div>STEMME</div> <div>F & D</div> <div>LBA.NSD.005</div>	Installation Instruction	Document number: A34-10-063E
	Additional Measures Fire Protection S10/S10V	Amend.-Index: 01.a
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1 General

This Installation Instruction describes the actions that are introduced by Service Bulletin A31-10-063 "Additional Measures Fire Protection S10/S10V".

2 Documents, Materials and Tools

2.1 Documents

The following documents are required for the modification:

Pos.	Document-No.	Document Type	Document Title
1	A31-10-063	Service Bulletin	Additional Measures Fire Protection S10/S10V
2	A31-10-057	Service Bulletin	Cockpit sealing
3	A35-10-057	Maintenance Instruction	Cockpit sealing



2.2 Materials

The consumables which are required for the modification are included in the modification set. All parts are listed in the part list in the annex to this installation instruction.

2.3 Tools

The following tools are required for the retrofitting:

Pos.	Designation
1	Standard metrical mechanic's toolkit
2	Pressing tool for one ear clamp

erstellt: prepared by:	Kurzzeichen Signed	MPL geprüft: checked by airworthiness dpt.:	Kurzzeichen Signed	Datum: Date:	Ersetzt Ausg. vom Supersedes issue of:	LBA anerkannt LBA approved	Datum: Date:
Ellwanger		Dalldorff		26.08.2002	--.------	-----	-----

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3 Actions

3.1 Preparatory actions

Before you can start the aircraft must be de-rigged according to the Flight Manual S10 and S10-V, chapter 4.2.

3.2 Fuel System

3.2.1 Center Wing

Before the modification can be performed both center wing fuel tanks must be emptied completely. For this the existing fuel line between the center wing and the water separator (centric is mounted a plastic inline fuel filter) should be disassembled. By use of the gray quick-connector installed on this fuel line the fuel can now be filled from the fuel tanks into a suitable fuel reservoir (i.e. in a fuel can).

Warning: There is an increased risk of fire during this work. Make sure that there is sufficient ventilation for the workshop and carefully ground the wing (i.e. the filler cap of the corresponding fuel tank) *and* the fuel can.

Thereafter open the clamps on the inner root rib and remove the complete hose including the quick-connector. The coarse filter inside of this hose must be removed, cleaned and finally placed in the corresponding pre-assembly of the modification set. The assembly must now be adapted to the inner wing and than tightened by use of clamps (M448, see picture 2-1)

3.2.2 Modification in the fuselage area

The fuel system will be modified in two steps:

- fuel system before the water separator
- fuel system between the fuel cock and the break-through through the fire wall

3.2.2.1 Between wing connection and the water separator

Disassemble both sides of the fuel system between the wing connection and the water separator on the diagonal frame tube, if it is not disassembled in the step before.

For this disconnect the fuel hose with the inline paper filter on the water separator.

Note: These disassembled parts of the fuel system *will not be used again*.

Now install the left and right hand pre-assemblies of the modification set (new inline fuel filter with fuel hoses, quick-connector and heat reflecting sleeves). Connect the fuel hoses to the water separator with the provided one ear clamps.

3.2.2.2 Between the fuel cock and the break-through through the fire wall

This section describes all fuel hoses near the upper fire wall.

Note: All these fuel hoses *will be used again*.

Each fuel hose will be modified after removal of it's corresponding one ear clamps.

The heat reflecting sleeves must be tailored to the equal length of their corresponding fuel hoses plus 0.8 in. (2 cm) additional length. The heat reflecting sleeves is to shove over the fuel hoses.

Assemble all fuel lines with the provided one ear clamps. Thereafter fix the heat reflection sleeves with safety wire against shifting.

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3.2.2.3 Engine compartment

Check the fuel lines and their connections between the breakthrough through the fire wall and the inlets of the carburetor and the mechanical fuel pump on the engine. In addition check all oil lines which are installed in the engine compartment.

Check the positioning of the fire sleeves. The clamps must be completely covered by the fire sleeves. If not, the fire sleeves must be replaced by longer ones. A special Checkpoint is the length of the fire sleeves which come out of the engine compartment. The protruding length must be longer than 3.2 in. (round about 8cm).

Fix the fire sleeves with safety wire against shifting.

3.3 Fire wall sealing with fire protection lute

All gaps between the fire wall and structural parts of the aircraft (i.e. steel frame and forward composite structure) must be sealed with fire protection lute. Remove the black edge protection covers around the tubes of the steel frame from the metal sheets of the fire wall and all old sealing lute. If required the fire protection lute must be applied in multiple steps. The modification set includes different metal sheets in case that the gaps are too big. They can be fixed with fire protection lute before the remaining gap is sealed with lute.

Note: The fire protection lute can be flatted with a wet finger. Use a mixture of washing-up liquid and water.

3.4 Installation of the cockpit sealing

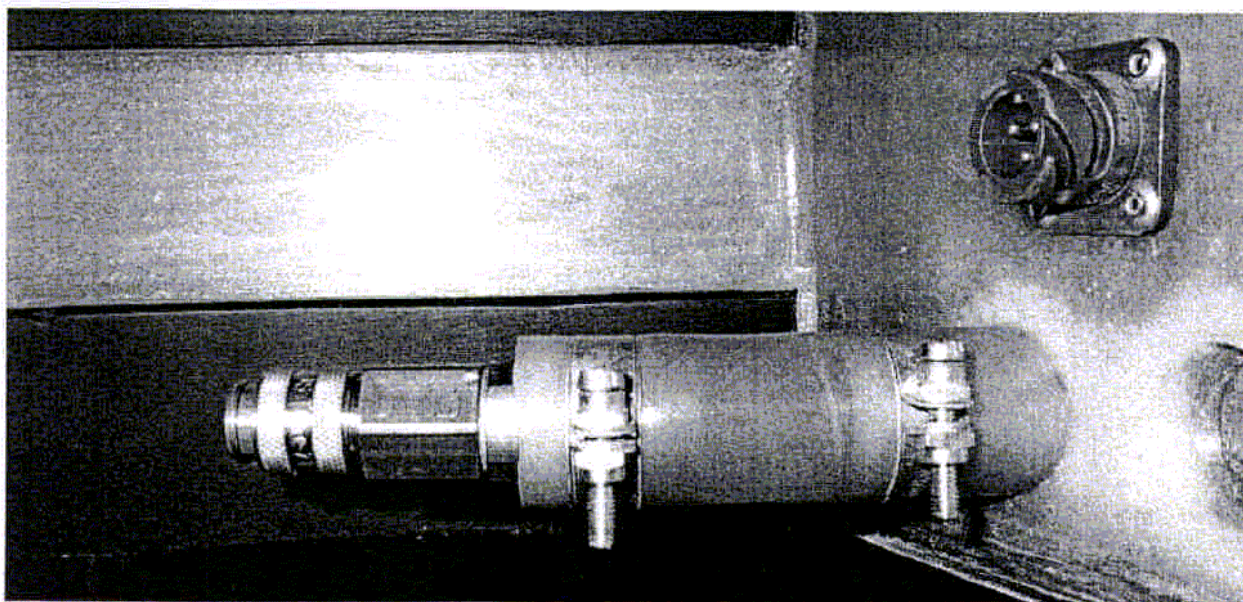
The installation of the cockpit sealing must be performed according to the Service Bulletin A31-10-057 "Cockpit sealing" and to the Maintenance Instruction A35-10-057 "Cockpit Sealing".

4 Rigging and functional test

After realization of all the actions the aircraft can be rigged again. An engine check run is to be performed.

5 Picture annex

Center Wing



Picture 2-1 „Assembly on the Center Wing“

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Part list

Pos.	Quantity	Description	Stemme Part-no.	Note
Center Wing				
1.1	1	modification set Wing left (pre-assembled with quick connector, connecting piece, gasket, hose Tygon-F4040A, clamp)		
1.2	1	modification set Wing right (pre-assembled with quick connector, connecting piece, gasket, hose Tygon-F4040A, clamp)		
1.3	2	hose clamp	M448	
Wing-Fuselage				
2.1	1	modification set Wing-Fuselage left (pre-assembled with quick connector, inline fuel filter, hoses, heat reflection sleeves)		
2.2	1	modification set Wing-Fuselage right (pre-assembled with quick connector, inline fuel filter, hoses, heat reflection sleeves)		
2.3	2	one ear clamp (14,5)	10M-181	water separator
Between fuel cock and the break-through through the fire wall				
3.1	8	one ear clamp (14,5)	10M-181	
3.2	1.5 m	safety wire 0.8	L9024-0.8	
3.3	3 m	heat reflection sleeve	HZ-KSL038	
Fire Wall				
4.1	350 ml	fire protection lute (cartridge)	A 319	
4.2	8	metal plate for adaptation	11AM-SW	
4.3	3	metal plate for adaptation	11AM-SX	
4.4	1	metal plate for adaptation	11AM-SY	
4.5	1	metal plate for adaptation	11AM-SZ	